

Parkland College

A with Honors Projects

Honors Program

2012

Sickle Cell Anemia

Derek Hayse
Parkland College

Recommended Citation

Hayse, Derek, "Sickle Cell Anemia" (2012). *A with Honors Projects*. 46.
<http://spark.parkland.edu/ah/46>

Open access to this Article is brought to you by Parkland College's institutional repository, [SPARK: Scholarship at Parkland](http://spark.parkland.edu). For more information, please contact spark@parkland.edu.

Sickle Cell Anemia

By: Derek Hayse

Medical Assisting: A with Honors

Spring of 2012: 04/23/12

Everyone has heard of genetics. There are dominant and recessive traits to genetics. For example: the color of your eyes and hair, how tall you are, the color of your skin, etc. There are also diseases and disorders that are passed down through genes that can be dominant or recessive, like sickle cell anemia. A lot of people have heard of sickle cell anemia, but I doubt everyone knows the true details of the disease.

Sickle cell anemia is the most common of the sickle cell diseases. It is passed down through families. People, who suffer from the disease, acquired the genes from both parents, or one gene from each parent. However, if a person were to receive just one of genes from a parent, they are a carrier of the disease and are considered to have the sickle cells trait. People who have the sickle cell trait often, but not always, live lives with little or no complications. Sickle cell anemia is most common in African families and people that are from South and Central America. It is also seen in people from the Caribbean islands, Mediterranean countries, India and Saudi Arabia. In the U.S., it is estimated that Sickle Cell Anemia affects 70,000-100,000 people, mainly African Americans. (www.nhlbi.nih.gov/health/health-topics/topics/sca/atrisk.html)

Sickle Cell Anemia is caused by Hemoglobin S. Hemoglobin is the protein that is inside the red blood cells and allows for the red blood cells to carry oxygen. With the Hemoglobin S, it causes the red blood cells to become sickled shaped, or crescent shaped. Because of the sickled shape the red blood cells have, they are unable to deliver as much oxygen to the body. Also, normally red blood cells are disk shape and pass easily through the vessels. With Sickle Cell Anemia, the cells are unable able to pass easily through the vessels and often get stuck to the damage or death to parts of the organs that lack the oxygen. (www.nhlbi.nih.gov/health/health-topics/topics/sca.) (www.ncbi.nlm.nih.gov/pubmedhealth/PMH001554)

Signs and symptoms include: fatigue, shortness of breath, dizziness, paleness, accelerated heart rate, jaundice, etc. There are many symptoms that go along with having Sickle Cell Anemia. However, how would a physician go about diagnosing a person with it? There are many tests that can be performed in confirming the diagnosis. One test is done at the time the baby is born. It is now required for babies to be tested for the disease at the time of birth. The babies' blood is tested from the same sample that the health care providers would use in other screen tests. Other tests performed include: Hemoglobin electrophoresis, complete blood count, bilirubin, blood oxygen, etc. Now that the person is diagnosed with the disease, a treatment plan is in order. (www.nhlbi.nih.gov/health/health-topics/topics/sca.) (www.ncbi.nlm.nih.gov/pubmedhealth/PMH001554)

The only task that physicians perform for sickle cell patients is to relieve the symptoms. The health care providers or medical professionals would alleviate the pain, try and prevent infections, organ damage and strokes. There is an option that Hematologists, and other doctors, have found in curing the disease, and that is bone marrow transplant or stem cell transplant. This would help tremendously since blood is synthesized within the bone marrow. The unfortunate downfall to this is that it doesn't work for a lot of the patients because they are having a hard time in finding the right blood match. (www.nhlbi.nih.gov/health/health-topics/topics/sca.) (www.ncbi.nlm.nih.gov/pubmedhealth/PMH001554)

Since it is hard to find a cure that works for everyone, what people need to be aware of is how to prevent the disease from occurring. With the right background knowledge, this can be achieved. As mentioned above, Sickle Cell Anemia is an inherited disease that is acquired from both parents having the sickle cell trait. What is recommended is that people, who know that they carry that specific gene within their DNA, need to see a genetic counselor, if the parents are

considering conceiving. The genetic counselor will explain the chances of the baby having Sickle Cell Anemia. If the child has Sickle Cell Anemia, there are ways to live a somewhat healthier life if precautions are followed. (www.nhlbi.nih.gov/health/health-topics/topics/sca.)
(www.ncbi.nlm.nih.gov/pubmedhealth/PMH001554)

Many people who choose to good health care skills, they can live prolific lives, but they have to be willing to follow all of the procedures and maintenances that come along with it. People who live with Sickle Cell Anemia need to do the following: take steps to prevent any complications, make sure to take care of infections immediately, learn to cope with the pain, etc. Sickle Cell Anemia is a dangerous disease to have, so also people need to make sure to have a physical exam every three to six months to make sure that they are receiving enough nutrition and physical exercise. Along with dealing with the symptoms, it is just a matter of following a healthy diet and exercising could make a huge difference to anyone.
(www.nhlbi.nih.gov/health/health-topics/topics/sca.)
(www.ncbi.nlm.nih.gov/pubmedhealth/PMH001554)

Sickle Cell Anemia is not an easy thing to live with, but it is possible. I hope that with enough information and learning about the subject, people can adjust their lives to living with this disease. My goal is to try and help people from contracting the disease in the first place. Sickle Cell Anemia can have extreme ramifications, so by furthering my medical education, I will be able to help people learn about ways to live a healthier life and make people find the true meaning of wanting to live.

Work Cited

(2011). *What is sickle cell anemia*. Retrieved April 16, 2012, from

www.nhlbi.nih.gov/health/health-topics/topics/sca.

(2011). *Sickle cell anemia*. A.D.A.M., Inc. Retrieved April 16, 2012, from

www.ncbi.nlm.gov/pubmedhealth/PMH0001554.